

An improved net radiometer, enclosed in a spherical polythene case was described. Two of these instruments, suitably matched to give a null reading at the same height, on a very sensitive galvanometer, permit direct measurements of the nocturnal radiative flux divergence between 0.5 m and 1.5 m.

He gave results he had obtained at Aspendale and Edithvale where the ground was uniform and more suitable for these observations, for a wide range of wind speeds and cloud conditions, and a comparison of observed and calculated values. He also gave a comparison of observed radiative flux with values read off the charts of radiometers. The measured value was found to be about twice the calculated value. Since the measured radiative cooling rates were considerably higher than actual it was concluded that in the lowest few metres nocturnal cooling is generally of radiative origin and that these layers are warmed by eddy transfer of heat.

Dr. Funk dealt with the variation of radiative flux with height and deduced that there was a height at which the flux was nil. He also mentioned the connection between radiation and eddy diffusivity and discussed the formation of dew and frost. At present, he said, observations were terminated when dew began to form. Comparison of radiation ground temperatures with those obtained from mercury grass thermometers were shown.

3 September 1959

Reflections on the I.G.Y at Little America

by K. Morley

Mr. Morley of the Bureau of Meteorology, who was an Australian observer at the American Antarctic base at Little America during 1958 gave a vivid description of the base illustrated by slides.

After briefly mentioning the trip, the construction of the base was explained. Prefabricated huts were arranged in parallel fashion, allowing streets between them and the whole collection covered with wire netting and jute hessian. The snow soon accumulated over this, converting the streets into tunnels and creating an "underground" village (ten feet below the snow after one year).

Among the amenities provided was the steam bath, devised by the camp doctor, after the style of the Finnish sauna bath. Large stones, brought down from New Zealand, were heated by an oil stove, in a metal lined room. Ice was thrown on the hot stones, producing dense steam. After sweltering on wooden benches in this atmosphere for some minutes the bathers ran outside and rolled in the snow. Small certifi-

cates were printed, signed by the camp doctor, for those who survived in this way a temperature range of 250°F, and there was even a more elite club for those who experienced a temperature contrast of 300°F. Other features included a movie theatre, hospital, dental surgery, photographic dark room, chapel and library. The organisation of the International Weather Central was described, Members from seven countries worked at the centre during its two years existence. The work done comprised mean sea level, 700, 500 and 300 mb analyses, some forecasting for planes and traverse parties and the responsibility for acting as the weather data collecting and distributing centre for Antarctica. Three types of balloon release huts in use on the continent were described.

Interesting features mentioned included the American ham patch system using a combination of radio amateur schedules and telephone, to enable the men to ring their homes, and the radio telephone line from New Zealand to the New Zealand base (Scott Base) at McMurdo Sound, by which he made a telephone call from Antarctica to Geraldton, Western Australia.

The cycle of seasons was most dramatic, with $4\frac{1}{2}$ months of darkness in winter, followed by remarkable warming up in spring and the hustle and bustle of the summer season with planes flying between bases, traverse parties, transit movements of personnel and skiing.

Trips to other Antarctic bases were made possible in U.S.Navy planes including a visit to Byrd base followed by a detour to the Herlich Mountains (84S) to land with electric welding gear for a traverse party. Many slides shown were of scenes at McMurdo Sound including Captain Scott's Hut, The American Base, the New Zealand base and the wonderful mountain scenery of the region.